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» Journal Abstract

Evaluation of gamma-glutamyl transferase changing in urine related to the training load in the rhythmic gymnasts competitors aged 7-10

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Post-exercise proteinuria and increased urinary gamma-glutamyl transferase (GGT) levels can be predictive of exercise induced renal damage. In the literature, there exists numerous studies on exercise induced proteinuria, but studies investigating the effects of exercise on urinary GGT levels are quite few. The purpose of this study was to determine that the changes in urinary GGT activity, urinary creatinine and protein levels, in order to assess any potential exercise induced tubular damage of rhythmic gymnasts competitors aged 7-10. The study was performed on 11 rhythmic gymnasts who were in elementary category as competitors of the same sport club in Istanbul - Turkey. The training load was 3 hours 30 min for the same loading and same duration for all gymnasts. Urine samples which were collected before, after and 24 hours after the training were analyzed for urinary GGT, creatinine and protein levels. Significant difference was observed between before and after training urinary GGT levels (U/L and U/g creatinine) of rhythmic gymnasts ($p < 0.01$, $p < 0.05$). No statistically significant difference was observed between before, after and 24 hours after training in urinary GGT level (U/L and U/g creatinine), urinary creatinine and protein levels ($p > 0.05$). As a result, the level of GGT urine increased depending on the exercises and decrease during resting but the training programme did not give any damage in kidneys.

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